

Date: Sat, 21 May 94 04:30:13 PDT
From: Ham-Ant Mailing List and Newsgroup <ham-ant@ucsd.edu>
Errors-To: Ham-Ant-Errors@UCSD.Edu
Reply-To: Ham-Ant@UCSD.Edu
Precedence: Bulk
Subject: Ham-Ant Digest V94 #151
To: Ham-Ant

Ham-Ant Digest Sat, 21 May 94 Volume 94 : Issue 151

Today's Topics:

 2m mobile antenna help!
 HamSticks....
 More AM Help...
 Using 50ohm Coax instead of 75ohm
 Why are there no amateur helix antennas? (2 msgs)

Send Replies or notes for publication to: <Ham-Ant@UCSD.Edu>
Send subscription requests to: <Ham-Ant-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Ant Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-ant".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Fri, 20 May 1994 03:14:55 GMT
From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!agate!library.ucla.edu!csulb.edu!
csus.edu!netcom.com!potaczek@network.ucsd.edu
Subject: 2m mobile antenna help!
To: ham-ant@ucsd.edu

Date: 21 May 94 03:56:20 GMT
From: agate!howland.reston.ans.net!wupost!udel!news2.sprintlink.net!
news.sprintlink.net!news.onramp.net!usenet@ucbvax.berkeley.edu
Subject: HamSticks....
To: ham-ant@ucsd.edu

hamsticks are available direct from Lakeview 800-226-6990 for \$19.95 ea plus
4.75 shipping. They are truly magic antennas.

They take visa/mc

-George Csahanin WB2DYB/5

Date: 21 May 94 06:17:05 GMT
From: agate!howland.reston.ans.net!math.ohio-state.edu!darwin.sura.net!
mother.usf.edu!luna!shadrick@ucbvax.berkeley.edu
Subject: More AM Help...
To: ham-ant@ucsd.edu

Okay, as some of you may remember, I have been trying to get an AM station from far away, and I needed to MAKE or BUY a loop antenna. Well, I am still having some problems.

Could someone suggest a book or source I could look at that may help? Sorry to be so dense on this subject. Thanks for your help.

shadrick@luna.cas.usf.edu

Date: Thu, 19 May 1994 10:18:15 GMT
From: ihnp4.ucsd.edu!newshub.sdsu.edu!nic-nac.CSU.net!usc!cs.utexas.edu!
csc.ti.com!tilde.csc.ti.com!cauldron!ra.csc.ti.com!fstop.csc.ti.com!
sbrown@network.ucsd.edu
Subject: Using 50ohm Coax instead of 75ohm
To: ham-ant@ucsd.edu

In article <Cq1z08.7px@cup.hp.com> genem@cup.hp.com (Gene Marshall) writes:

> I would like to install an antenna here at work for standard commercial
> FM reception. This will require about 150 feet of cable and I have
> plenty of RG-58 available. Is there any way I can make use of this or
> should I purchase 75-ohm cable?
>
> The ARRL handbook shows a 50-ohm to 75-ohm Broadband Transformer for
> using 75-ohm in a 50-ohm station setup, and states it's good for
> 2..30MHz. Yet, later in the article they said they tested it on VHF.
>
> Do you think I can get away with a couple of these transformers? Or is
> RG-58 pretty much limited to frequencies below 55MHz?

The short answer is that you can probably get away with nothing at all. The mismatch to a 75 ohm antenna is 1.5 to 1, a reasonably respectable

match.

There is more to the story if signal strength is a concern at all. My handy dandy wire and cable book says that your 150 feet of RG-58 will present a loss of about 6.9 db in the frequency range you are interested in. This assumes RG-58 or RG-58B, not RG-58A or RG-58C which have even higher loss.

The 75 ohm stuff is not much better - RG-59 = 5.1 db. I don't know what your physical setup is, but, if the mechanical problems are not insurmountable, you would probably be better off with ordinary twin lead. I don't have the loss figures right in front of me, but the loss is much less than the loss in coax.

If you live in a high signal strength area, just run the RG-58 and go for it.

My \$0.02 worth.

```
*****
| Steve Brown, WD5HCY           |           |
| sbrown@charon.dseg.ti.com    | Simplicate |
| wd5hcy@wd5hcy.ampr.org       | and add    |
| [44.28.0.61]                 | lightness. |
| wd5hcy@kf5mg.#dfw.tx.usa.na |           |
*****
```

Date: Fri, 20 May 1994 15:10:46 GMT
From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!europa.eng.gtefsd.com!
darwin.sura.net!gatekeeper.es.dupont.com!eplx7!eplx7.es.dupont.com!
duncanfj@network.ucsd.edu
Subject: Why are there no amateur helix antennas?
To: ham-ant@ucsd.edu

gratclif@magnus.acs.ohio-state.edu (Gregory W. Ratcliff) writes:

>I've been tinkering around here building some loop yagis,
>some logs, and now just starting on a helix. After researching
>this a bit, I can't for the life of me figure out why this isn't the
>most popular vhf/uhf antenna for amateurs.

>Are there patent restrictions still?

>Anyway, I'm trying to start a thread about constructing a few nice helixes
>(or is that helixs).

>My comments.

>Linear polarization seems easy, according to Kraus.

>Gain seems 90% of yagi per boom length.

>Gain seems 300% of yagi per man hour to build.

>Gain seems much more "friendly" to errors.

>Bandwidth is much greater.

>Matching seems like a no brainer.

>The real question seems to be coming up with a good mechanical arrangement

>to hold the antenna. A boom with spreaders seems like too much work. How

>about large diameter coil supported only on the top. Something like 1/4"

>aluminum wire would be nice.

>Email or post we can all learn something in the discussion.

I agree - the Helix makes sense to me intuitively as well. I started on a 10 foot boom with spreaders for 440Mhz, had intentions of getting it tuned and then adding a 2 meter helix around it on the same boom. I work a little satellite and the idea of having them concentric was appealing. Anyway, never got the 440 on the air - still on saw horses in the basement, and have no idea what kind of coupling/interaction problems I was headed for.

An

>greg

>Gregory W. Ratcliff

>Columbus, Ohio ICBM

>In the Air N1697X

>On the Air NZ8R

Date: Fri, 20 May 1994 15:55:15 GMT

From: pa.dec.com!src.dec.com!crl.dec.com!nntpd.lkg.dec.com!nntpd2.cxo.dec.com!
iamu.chi.dec.com!little@decwrl.dec.com

Subject: Why are there no amateur helix antennas?

To: ham-ant@ucsd.edu

In article <gratclif.52.2DDC49F8@magnus.acs.ohio-state.edu>,

gratclif@magnus.acs.ohio-state.edu (Gregory W. Ratcliff) writes:

|>I've been tinkering around here building some loop yagis,
|>some logs, and now just starting on a helix. After researching
|>this a bit, I can't for the life of me figure out why this isn't the
|>most popular vhf/uhf antenna for amateurs.

Because of the reasons you give below.

|>

|>Are there patent restrictions still?

|>
|>Anyway, I'm trying to start a thread about constructing a few nice helixes
|>(or is that helixs).

It's helicals (helices?) I think.

|>
|>My comments.
|>
|>Linear polarization seems easy, according to Kraus.
|>Gain seems 90% of yagi per boom length.

Only if you consider circularly polarized antennas at both end. Otherwise you have a 3 dB loss in gain when communicating with a linearly polarized station.

|>Gain seems 300% of yagi per man hour to build.
|>Gain seems much more "friendly" to errors.
|>Bandwidth is much greater.
|>Matching seems like a no brainer.

True, but in weak signal work (where much of the antenna design effort goes) pattern and gain are probably the most important issues. I'd rather spend more time building an antenna with a good pattern and high gain, then spend less time building a poorer antenna. Also, the problems associated with matching are pretty well understood, so that shouldn't impose too great a problem. And bandwidth for the amateur VHF/UHF bands isn't typically a big issue as there is a tendency to use different antennas (with different orientation) in different portions of the bands. So a vertically polarized antenna on 70 cm only needs to span a third of the band. Likewise a horizontally polarized antenna only needs to span an even smaller portion of the band.

|>The real question seems to be coming up with a good mechanical arrangement
|>to hold the antenna. A boom with spreaders seems like too much work. How
|>about large diameter coil supported only on the top. Something like 1/4"
|>aluminum wire would be nice.

Exactly. The mechanical aspects for VHF are a pain. A 1 wavelength reflector for 2 meters is a sizable reflector that will catch a lot of wind. At UHF and microwave frequencies, the mechanical aspects get better, although building and supporting a 12-15 turn 70cm helix is still a non-trivial task.

Please don't construe this to suggest that folks not build helicals, but as an explanation as to why they aren't the "universal antenna". I've built a couple myself and had fun doing it. Certainly for circularly polarized signals on the UHF bands, they're an attractive alternative to crossed

yagis.

73,
Todd
N9MWB

Date: 19 May 1994 20:32:08 GMT
From: ihnp4.ucsd.edu!newshub.sdsu.edu!nic-nac.CSU.net!usc!math.ohio-state.edu!
howland.reston.ans.net!vixen.cso.uiuc.edu!usenet@network.ucsd.edu
To: ham-ant@ucsd.edu

References <hawley.769358693@aries>, <2rgdl5\$kfd@news.CCIT.Arizona.EDU>,
<hawley.769377021@aries>
Reply-To : ignacy@uiuc.edu (Ignacy Misztal)
Subject : Re: Ladder Line

In <hawley.769377021@aries>, hawley@aries.scs.uiuc.edu (Chuck Hawley) writes:
>Oh...300ohm. Well they have 450 in solid and stranded, 18 and 16 ga
>respectively. They also have 300 ohm KW twinlead. But who cares?
>So does Wireman. I like 'em both...
.....

Does any variety that you list have good insulation so that the cable
can touch gutters without side effects other than capacitive coupling?
I known that TV cables are manufactured with thin and thick
insulation.

Ignacy Misztal	Ham radio: N09E, SP8FWB
E-mail: ignacy@uiuc.edu	
University Of Illinois	1207 W. Gregory Dr., Urbana, IL 61801, USA
tel. (217) 244-3164	Fax: (217) 333-8286

End of Ham-Ant Digest V94 #151
